INTERNAL WORKING DOCUMENT NO. 86-07

FIFTH YEAR SURVIVAL AND HEIGHTS OF A 1980 LODGEPOLE PINE - JACK PINE PROVENANCE TEST

March 1986

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Department of Forests, Mines and Energy
Timber Management Branch

INTRODUCTION

In 1980 the Tree Improvement Section of the New Brunswick Department of Forests, Mines and Energy (formerly Natural Resources) initiated a lodgepole pine - jack pine provenance trial. In July seedlings of both species were outplanted at two different locations - Burntland Brook and Salmon River Road - to test for growth and survival performance.

A previous DNR report (Lodgepole Pine Testing 1976, 1980) describes the methods used, experimental design and establishment information. This report summarizes seed source information, survival and height data after five (5) years and observations with regard to disease susceptibility of both species.

SEED SOURCE IDENTIFICATION

Seed Lot #	Species	Identification
2103	Lodgepole Pine	Cecil Lake, Prince George, BC
2311	Lodgepole Pine	Valemont, Prince George, BC
2323	Lodgepole Pine	Barton Lake, Prince George, BC
2630	Lodgepole Pine	Blackwater, Prince George, BC
01-22	Jack Pine	Bay du Vin, NB
01-25	Jack Pine	Whitney Brook 2, NB
01-217	Jack Pine	Tracadie, NB

RESULTS

Table 1 summarizes the result of the measurements recorded in the fall of 1985. There is a significant difference between the performance of lodgepole pine and jack pine at both locations.

1) Survival and height performance of jack pine is significantly superior to that of lodgepole pine.

2) Lodgepole pine is more susceptible to disease (needle and blister rust) and dead leaders.

3) The incidence of multiple stems is greater in lodgepole pine. The reason for the multiple stems was not determined.

Lodgepole pine does not appear to be a suitable species for reforestation purposes in New Brunswick. The two provenance locations in this test will be remeasured after the 10th year to continue to monitor performance. Diameter comparisons will be included at that time.

TABLE 1. SURVIVAL AND HEIGHTS AFTER FIVE (5) YEARS
1980 LODGEPOLE PINE - JACK PINE PROVENANCE TEST

		LODGEPOLE PINE SEED SOURCE					JACK PINE SEED SOURCE		
		2103*	2311	2323	2630		01-22	01-25	02-217
BURNTLAND BK.	Ht[1]	135.2	152.0	144.4	132.3		198.9	190.4	173.1
	Surv[2]	82	94	92	92		96	92	98
	NR[3]	-	2.1	-	2.2		-	-	2.0
	BR[4]	-	-	-	-		-	-	-
	DR[5]	-	6.4	2.2	4.3		4.2	-	6.1
	MS[6]	31.7	38.3	23.9	15.2		16.7	8.7	22.4
SALMON RIVER RD.	Ht	80.6	87.4	105.0	79.2		152.6	144.1	160.8
	Surv	76	90	86	82		100	96	96
	NR	5.3	2.2	2.3	9.8		-	-	-
	BR	31.6	20.0	20.9	12.2		-	-	-
	DT	-	-	-	-		-	-	-
	MS	10.5	17.8	20.9	22.0		12.0	-	18.8

* Seed lot number
1 Height in cm
2 Survival in %
3 Incidence of needle rust in %
4 Incidence of blister rust in %
5 Number of dead leaders in %
6 Number of multiple stems in %